

# Burnout among Dentists in Riyadh City, Kingdom of Saudi Arabia

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## ABSTRACT

**Introduction:** Physical and mental health of a health care professional is of utmost important. Health care professional student during their course of the study will go through different stages of academic and clinical tasks which may sum up to bouts of stress and are difficult to cope up leading to a visibly invisible disease called "burnt out syndrome". The aim of the present study was to assess the degree of burnout among dentists by age, gender, years of working experience, type of job, and professional qualification.

**Methods:** This cross-sectional survey used the Oldenburg Burnout Inventory (OLBI) on 132 dental professionals to assess the level of burnout. The OLBI which assesses burnout on two dimensions: exhaustion and disengagement domains were distributed to general dental practitioners, specialists, and consultants working in the both public and private sectors. Data was analyzed using the SPSS IBM software version 23.

**Results:** General dentist are more likely to exhibit the highest levels of burnout, although all dentists had much higher levels than those reported in the literature ( $p = 0.004$ ). Females showed statistically significantly higher levels of burnout than males in both disengagement and exhaustion domains, with  $p$  value being lesser than 0.001. A statistically significant negative correlation was found between burnout scores and age and years of working experience of the respondents suggesting that burnout score decreased with increase in age and years of working experience.

**Conclusion:** The general dentist and female gender showed higher levels of burnout in both disengagement and exhaustion domains.

**Key words:** Burnout, Dentists, OLBI

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## INTRODUCTION

Burnout syndrome is a not a new entity and described as of "emotional exhaustion and cynicism that can occur among individuals who do 'people work' of some kind" [1]. The term burnout was first introduced as early as in 1970 referring to what happened to social workers who had high expectations of themselves which they could not reach [2]. Burnouts include psychological exhaustion or a loss of feeling and concern, a negative shift in response to others, and reduced productivity and capability [3]. Burnout is characterized by high levels of exhaustion and negative attitudes toward their work [4].

With the many cases getting reported and need for assessing the background factors arises, leads to development of assessment tool and inventory to understand the same in a scientific manner. Though, Maslach Burnout Inventory (MBI), was the most widely used burnout measure [5], it has been criticized

methodologically and theoretically [6]. To overcome the draw backs and to involve the new components, the newly introduced the Oldenburg Burnout Inventory (OLBI) was chosen by many studies thereafter.

Prevalence of burnout is reported in various health care professionals. Burnout can be considered a serious risk to the dental profession and therefore is considered as a public health issue [7]. As early as 1994, study done by Osborne and Croucher (1994) reported that 10.6% of the dentists in the United Kingdom (UK) suffered from "high overall levels of burnout" [8]. A study among Dutch dental professionals revealed low levels of burnout [9]. A national survey of dentists in the UK reported that burnout affected a small but significant proportion of dentist [10]. However, several other studies reported higher prevalence of burnout too [11,12].

Singh et al. (2016) in a systematic review of factors contributing factors in dentistry revealed the most prevalent and significant factors associated with burnout were younger age, male gender, student status, high job-strain/working hours, those enrolled in clinical degree programmes, and certain personality type [13]. Al-Mobeeriek and Al-Mobeeriek (2018) concluded that

dental non-academics tend to have higher burnout levels than academics. Burnout levels are affected by age, gender, years of experience, rank, and workload [14]. Mohebbi et al. studied the burnout among the Iranian students using burnout clinical subtype questionnaire (BCSQ-12-SS) and recorded the average burnout score was 29.6 out of maximum score of 60 [15].

Though there are reports published regarding the burnout among the dental students, still there appears to be difference of opinion and variations seen in the results of studies published. Moreover, there is possibility of variation among the dental students in different regions and different countries. Further, as burnout in dentistry has been investigated in a relatively small number, there is a need to conduct a study to measure the burnout levels of dentists. Thus, the aim of this study is to determine the levels of burnout among dentists by age, gender, years of working experience, type of job, and professional qualification.

## METHODS

### Study design and setting

A cross-sectional survey was conducted in Riyadh city, Kingdom of Saudi Arabia. The questionnaire was distributed to a random sample of dentists. The study questionnaire was filled by the respondents in paper format, an electronic format or through an online link.

### Study population

Dental professionals in Riyadh city formed the study population. All graduated dental professionals were included in the study, while incompletely filled forms were excluded. Participation of study population was voluntary, and a note was added in the header section to maintain confidentiality of all included participants.

### Instrument, measures, and data collection

The Oldenburg Burnout Inventory (OLBI) was utilized to assess the level of dentists' burnout in this study. The OLBI assesses burnout on two dimensions: exhaustion and disengagement. Eight questions cover the exhaustion dimension, which examines physical and cognitive aspects of exhaustion in addition to affective aspects as measured in the MBI. Eight questions examine the disengagement dimension, which covers the concept of depersonalization and negative attitudes towards work and work engagement more generally.

To be considered as experiencing burnout, respondents had to score  $\geq 2.25$  on exhaustion and  $\geq 2.10$  on disengagement. These cut-off points have been used in previous research. The mean  $\pm$  sd scores of each item of the exhaustion and disengagement domains (Table 1). The levels of self-reported burnout of the exhaustion and disengagement domains were 88.5% and 89.3% respectively.

**Table 1: Mean  $\pm$  SD scores of each item of the exhaustion and disengagement domains.**

Domain	Items	Mean $\pm$ SD
Disengagement	I always find new and interesting aspects in my work	1.99 $\pm$ 0.81
	It happens more and more often that I talk about my work in a negative way	2.91 $\pm$ 0.90
	Lately, I tend to think less at work and do my job almost mechanically	2.92 $\pm$ 0.81
	I find my work to be a positive challenge	2.19 $\pm$ 0.90
	Over time, one can become disconnected from this type of work	2.98 $\pm$ 0.81
	Sometimes I feel sickened by my work tasks	3.02 $\pm$ 0.83
	This is the only type of work that I can imagine myself doing	2.39 $\pm$ 0.98
	I feel more and more engaged in my work	2.24 $\pm$ 0.92
	Total	2.58 $\pm$ 0.47
Exhaustion	There are days when I feel tired before I arrive at work	3.26 $\pm$ 0.75
	After work, I tend to need more time than in the past in order to relax and feel better	3.25 $\pm$ 0.76
	I can tolerate the pressure of my work very well	2.21 $\pm$ 0.93
	During my work, I often feel emotionally drained	2.96 $\pm$ 0.81
	After working, I have enough energy for my leisure activities	2.52 $\pm$ 0.97

After my work, I usually feel worn out and weary	3.09 ± 0.78
Usually, I can manage the amount of my work well	2.27 ± 0.91
When I work, I usually feel energized	2.49 ± 0.99
Total	2.75 ± 0.48

### Statistical analysis

Data was analysed using SPSS IBM version 23 (IBM SPSS Statistics for Windows, Version 21.0, IBM Corp: Armonk, NY). Descriptive statistics were performed, and frequencies, means, and standard deviations are reported. Independent Samples ttests and One-way Analysis of Variance (ANOVA) with post-hoc tests (Scheffe) for multiple comparisons where necessary and was used to assess the relationship between each of the domains and the independent variables. A p - value of  $\leq 0.05$  will be considered statistically significant.

### Ethical considerations

Permission to carry out the study was obtained from the

Institutional Ethical Committee (IEC) of Riyadh Elm University. (Ref No:FPGRP/2019/420/55/59).

### RESULTS

General characteristics: Of the total 132 respondents, over half the respondents were male (55.7%, n=73). Most of the respondents are working in public sector (63.4%, n=83). Most of the respondents are general dentist (67.9%, n=89). Mean  $\pm$  SD age and years of working experience of the respondents are  $30.0 \pm 5.4$  years (ranging from 19-47 years) and  $6.1 \pm 3.9$  years (ranging from 0-22 years) respectively (Table 2).

**Table 2: Demographic characteristics.**

		Frequency	Percent
		(n)	(%)
Gender	Male	73	55.7
	Female	58	44.3
Type of job	Private	24	18.3
	Public	83	63.4
	Both	24	18.3
Professional qualification	General Dentist	89	67.9
	Specialist	37	28.2
	Consultant	5	3.8

According to gender, type of job, and professional qualification field of practice the levels of self-reported burnout are outlined in Table 3. As can be seen, general dentist is more likely to exhibit the highest levels of

burnout, although all dentists had much higher level than those reported in the literature. Females are more likely to exhibit the highest levels of burnout.

**Table 3: Respondents' level of burnout by demographic characteristics.**

		Disengagement	Exhaustion
Gender	Male	62 (86.1)	61 (84.7)
	Female	54 (93.1)	54 (93.1%)
Type of job	Private	22 (91.7)	22 (91.7)
	Public	71 (86.6)	72 (87.8)
	Both	23 (95.8)	21 (87.5)
Professional qualification	General Dentist	81 (91.0)	81 (91.0)
	Specialist	30 (83.3)	29 (80.6)
	Consultant	5 (100.0)	5 (100.0)

Burnout and gender: An independent samples t-test revealed a statistically significant difference between gender on their mean scores of burnouts ( $p < 0.005$ ). Females showed statistically significantly higher levels of burnout than males ( $p < 0.005$ ) in both disengagement and exhaustion domains. A one-way analysis of variance revealed a statistically significant difference between the

groups on their mean scores of burnouts ( $p < 0.005$ ). Post-hoc tests showed that general dentist showed statistically significantly higher levels of burnout than specialist in both disengagement ( $p = 0.004$ ) and exhaustion ( $p = 0.006$ ) domains. Although those working in public sector showed higher levels of burnout, there were no statistically significant differences between the type of jobs ( $p > 0.05$ ) (Table 4).

**Table 4: Comparison of mean  $\pm$  sd scores by demographics.**

		Disengagement	Exhaustion
Gender	Male	2.42 $\pm$ 0.39	2.57 $\pm$ 0.42
	Female	2.75 $\pm$ 0.47	2.96 $\pm$ 0.47
	p value	0.000*	0.000*
Type of job	Private	2.43 $\pm$ 0.30	2.68 $\pm$ 0.40
	Public	2.63 $\pm$ 0.53	2.80 $\pm$ 0.52
	Both	2.51 $\pm$ 0.27	2.62 $\pm$ 0.35
	p value	0.133	0.191
Professional qualification	General Dentist	2.65 $\pm$ 0.49	2.83 $\pm$ 0.51
	Specialist	2.36 $\pm$ 0.32	2.53 $\pm$ 0.35
	Consultant	2.58 $\pm$ 0.25	2.78 $\pm$ 0.24
	p value	0.004*	0.006*

\* Statistically significant at  $p \leq 0.05$

Pearson correlation exhibited a statistically significant negative correlation between burnout scores and age and years of working experience of the respondents ( $p < 0.05$ ).

This suggests that burnout score decreased with increase in age and years of working experience (Table 5).

**Table 5: Correlation between domain scores and demographics.**

	Age in years		Years of working experience	
	R	p value	r	p value
Disengagement	-0.441	0.000*	-0.319	0.000*
Exhaustion	-0.429	0.000*	-0.247	0.005*

\* Statistically significant at  $p \leq 0.05$

The univariable analysis estimated variables of gender, type of job and professional qualifications association with burnout. Type of job was not significantly associated with burn out while the other parameters were found to be significantly related. Further, multivariable analysis

was conducted for the significant parameters. Burn out was significantly associated with gender (OR:1.772, 95%CI 2.552–1.248;  $p < 0.001$ ) and professional qualifications (aOR:2.183, 95% CI 2.800–2.247;  $p = 0.002$ ) (Table 6).

**Table 6: Univariable and multivariable factors associated with burnout.**

Variables	Univariable analysis		Multivariable analysis	
	Odds (CI -)	P value	Odds (CI -)	P value
Gender	1.582 (1.809–1.421)	0.001*	1.772 (2.552 – 1.248)	<0.001*
Type of job	0.793 (1.132–0.622)	0.684	-	-
Professional qualification	1.903 (2.446–1.760)	0.004*	2.183 (2.800 – 2.247)	0.002*

\* Statistically significant at  $p \leq 0.05$

## DISCUSSION

Burnout among healthcare professional is an important factor due to its impact on patient care, society, and on nation. It is indeed a good practice to find out the stress level and burnout among the dentist so that remedial measures can be implemented by the dental society and regulatory bodies.

The present study is unique in assessing the burnout among the dentist in middle east region because we have used The Oldenburg Burnout Inventory (OLBI). Though many studies have used Maslach Burnout Inventory (MBI), because of its drawbacks, unable to assess certain criteria clearly, this new inventory was used in the present study. However, few other studies explained the need for separate questionnaire for the dentist. The respondent rate of the present study was similar and above to the studies reported earlier. This high response is due to the various forms of participation like paper form or through the online link or electronic format; this allowed the participation in large number according to their convenience.

Male participation in the present study was relatively more than that of the females. Given the geographical location this difference was relatively expected. Large participation of the public sector compared to the private sector dentist in the present study shows their willingness to participate. Private sector dentist with their busy practice may have lack of time and may be ignorant about the benefit of participating in such studies. Public sector dentist if participated in such studies help them to come out with remedial measures which can be suggested to their management or higher officials. General dentist participation in the present study is far better than the specialist and consultants. This may be corresponding to the total number of each of them present in that region (a greater number of general dentists compare to specialists or consultants).

The sample group in the present study had minimum experience of six years in their practice. This number of years of practice may be adequate to overcome the initial struggle to set up the practice or enough to get adjusted in a given public sector. Thus, negates the negative influence of this factor on the results.

To be considered as experiencing burnout, respondents had to score  $\geq 2.25$  on exhaustion and  $\geq 2.10$  on disengagement. These cut-off points have been used in previous research [16]. Thus, it allows easy to compare the data with the previous studies.

Gender wise comparison of the results showed that females are more prone to burnout than males, this is contrary to the reports published earlier [17,18]. However, it is understood that female dentists have multiple role to play in the society. They must manage both home and work which makes them susceptible to work overload and stress.

General dentist in the present study outnumbered the specialist and consultants. It was found that their burnout score was much more compared to specialists

and consultants. Several reasons can be quoted for this, consultants and specialists are possibly having improved financial status due to their increased number of years in practice, thus feel more secure with their life including health and social care. This is expected to increase time and resources to spend for recreation/leisure activities and acquiring new information and skills which in turn could affect their confidence to handle any given case and reduce the stress there of. General dentist high burnout may be related to their new entry in the dental practice, competition among the fellow dentists, fear about career goals, and the less opportunity to improve the skills themselves [19,20].

Many reviewed publications regarding dentistry as a profession, has described it is as one of the most demanding occupations with serious health risks, including psychological and metal stress. In dentistry, diversity of stress factors has been listed. One dentist may feel handling of the patient is more stressful than upgrading the skill. Another dentist may feel the rapid advancing digital techniques and methods were difficult to handle and follow, lagging the new generation dentist [21,22].

The dental profession differs in many ways in different countries. It may vary from region to region. This may be due to the governing body, rules and regulations, and patient supply. Legal implications, competitiveness between colleagues, cost of dental services, and the area and country of practice influence the workload and stress in a different manner. Since this stress built up in a dentist not only changes his quality of work, but also well-being. Thus, studies and findings of studies like ours will helpful to build up preventive plan to reduce the burnout and also helpful to influence the dental governing bodies to come out with the measures to overcome this burnout [23].

The present study has a few limitations. Though we have included both males and females in our study, there is difference in the numbers of each of this gender. Females' participation is lesser compared to males. Thus, studies to be done keeping in mind the same number of females and males in the sample, so that it is valid to compare the data obtained. Similarly, number of general dentist population in our study was more than that of the specialist and consultants. Future studies keep this in mind to compare the data among these groups. Similarly, public sector dentist in the sample is more than that of the private sector dentist. To understand the equal opportunity and equal work-related burnout factors, and to compare the data among these two groups future studies need to consider a better sample size to get more valid conclusion.

Based on the study findings, the authors recommend that the results of the study can help dental bodies or organizations to ensure well-being in dentists working in all fields of dentistry. It can also protect the dental workforce and improve the dental health service and provide information for prevention, early recognition, and treatment of burnout.



**CONCLUSION**

Within the limitation of the study, dentists have high burnout score considering important parameters, exhaustion, and disengagement. Female dentists are more likely to exhibit the highest levels of burnout. General dentist showed higher levels of burnout than specialist in both disengagement and exhaustion.

**COMPETING INTERESTS**

The authors declare no competing interests.

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